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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/460,951	12/14/1999	CARLINO PANZERA	173P023	3152

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EXAMINER	
HOFFMANN, JOHN M	
ART UNIT	PAPER NUMBER
1741	

NOTIFICATION DATE	DELIVERY MODE
03/24/2011	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No.	Applicant(s)	
	09/460,951	PANZERA ET AL.	
	Examiner	Art Unit	
	John Hoffmann	1741	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *09 February 2011*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☐ Claim(s) *5 and 8-12* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *5 and 8-12* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after allowance or after an Office action under *Ex Parte Quayle*, 25 USPQ 74, 453 O.G. 213 (Comm'r Pat. 1935). Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, prosecution in this application has been reopened pursuant to 37 CFR 1.114. Applicant's submission filed on 2/09/2011 has been entered.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 5 and 8-12 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Examiner could find no support for the newly claimed limitation that the porcelain is fired at 790 C to 850C.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 5 and 8-12 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 indicates that the composition "further" comprises leucite – at about 5-65%. However the previous box already requires 78% other ingredients - which effectively limits the amount of leucite to 22%. However page 4 of the specification merely indicates that the composition merely comprises leucite - that is it is not a 'further' component. Thus it is unclear as to whether the "further" of claim 5 was accidentally added, or if it is actually suppose to be in addition to the other ingredients.

Claim 5, line 19: there is no antecedent basis for "the dental porcelain". The claim does not recite any creation of any porcelain. Page 3, line 19 of the specification refer to repair of dental restorations. Thus it is unclear if "the dental porcelain" indicates that the framework (line 3) is a porcelain to which the claim composition is fused, or if it refers to a porcelain that is created from the composition.

Examiner attempted to interpret claim 5 in light of the specification, but what is described there does not appear to be what is being claimed, so the specification cannot be relied upon to determine what is being claimed. For example, claim 5 requires fusing a composition having the leucite in a glass matrix, but page 6, lines 22-

25 state that the two component *mixture* is fired at 850 C and not the dental porcelain to create the porcelain composition. Since the specification is not commensurate in scope with what is claimed, the specification does not assist in determining what is meant by "the dental porcelain is fired".

The last two lines of claim 5 indicate that the temperature is "ranging". It is unclear whether it means the ranging should be interpreted as "ramping", or if is a temperature within that range. It is also unclear whether it means the porcelain body achieves that temperature, or the furnace, or the air temperature within the furnace is the temperature.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 5 and 8-12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Weinstein (DE 1441336) in view of Chemical Abstracts 120 (M.Y. Shareef et al).

See how the references were applied to claims 1-4 and 6-7 in the 11/29/2005 Examiner's Answer and affirmed by the Board 07/01/2010. Claim 5 includes a further

limitation. Claim 5 recites that the dental porcelain “is fired”. It is noted that the claim does not recite "firing" - compare to the claimed steps of "fusing" and "providing". Also claim 5 never actually recites any converting of the composition to porcelain. Still further, (as indicated above) page 6, lines 22-24 of the instant specification indicate that it is a mixture which is fired to create the porcelain composition. As indicated above, Examiner is not sure what this limitation requires. Nevertheless, Examiner needs to interpret this additional limitation.

Examiner finds that the broadest reasonable limitation that the porcelain “is fired” serves as a product-by-process limitation. That is, the claim does not recite a step of ‘firing’ and thus Examiner assumes that that applicant does not wish to limit the claim to processes which have a step of firing. Thus Examiner interprets the limitation similar to the manner that one would interpret: “The porcelain composition made by the method of claim X, wherein the porcelain is fired at a temperature between about 790 and about 850 C.” Thus by looking at the porcelain of the Weinstein-Shareef composition one could not tell whether or not it was fired at a temperature between 790 and 850 C. That is the process of firing at the claimed temperature would not impart any identifiable characteristic to the material.

Examiner finds the “is fired” limitation does not define over the obvious Weinstein-Shareef composition for the following 4 reasons: 1) As is well-known in the ceramics art, firings are time and temperature dependent. For example, Weinstein at page 12 – second to last paragraph – one can fire at 1093 C for 30 minutes or 1177 for a few minutes. Thus looking at the Weinstein porcelain, the ceramic would have no

property imparted by the specific temperature used for processing. 2) the 1093-1177 C range for Weinstein high-melting point ceramics is mostly lower than the corresponding melting points (page 5 = 1150 C; page 6 = 1093-1315 C). Thus one would expect to use a temperature less than the 900 C melting point (Weinstein, page 11, line 4). 3) It is a matter of common sense that one would not want to heat the material near its melting point, since the idea is for the ceramic to mature/vitrify it into a porcelain body, not into a molten mass. 4) Lastly, since it is clear that the temperatures are important result-effective variables, it would have been obvious to perform routine experimentation to determine the optimal temperatures for processing.

2144.05 [R-1] Obviousness of Ranges
See MPEP § 2131.03 for case law pertaining to rejections based on the anticipation of ranges under 35 U.S.C. 102 and 35 U.S.C. 102/103.

II. OPTIMIZATION OF RANGES
A. Optimization Within Prior Art Conditions or Through Routine Experimentation
Generally, differences in concentration or temperature will not support the patentability of subject matter encompassed by the prior art unless there is evidence indicating such concentration or temperature is critical. "[W]here the general conditions of a claim are disclosed in the prior art, it is not inventive to discover the optimum or workable ranges by routine experimentation." In re Aller, 220 F.2d 454, 456, 105 USPQ 233, 235 (CCPA 1955) (Claimed process which was performed at a temperature between 40°C and 80°C and an acid concentration between 25% and 70% was held to be prima facie obvious over a reference process which differed from the claims only in that the reference process was performed at a temperature of 100°C and an acid concentration of 10%.); >see also Peterson, 315 F.3d at 1330, 65 USPQ2d at 1382 ("The normal desire of scientists or artisans to improve upon what is already generally known provides the motivation to determine where in a disclosed set of percentage ranges is the optimum combination of percentages.");< ** In re Hoeschele, 406 F.2d 1403, 160 USPQ 809 (CCPA 1969) (Claimed elastomeric polyurethanes which fell within the broad scope of the references were held to be unpatentable thereover because, among other reasons, there was no evidence of the criticality of the claimed ranges of molecular weight or molar proportions.). For more recent cases applying this principle, see Merck & Co. Inc. v. Biocraft Laboratories Inc., 874 F.2d 804, 10 USPQ2d 1843 (Fed. Cir.), cert. denied, 493 U.S. 975 (1989); In re Kulling, 897 F.2d 1147, 14 USPQ2d 1056 (Fed. Cir. 1990); and In re Geisler, 116 F.3d 1465, 43 USPQ2d 1362 (Fed. Cir. 1997).
B. Only Result-Effective Variables Can Be Optimized
A particular parameter must first be recognized as a result-effective variable, i.e., a variable which achieves a recognized result, before the determination of the optimum or workable ranges of said variable might be characterized as routine experimentation. In re Antonie, 559 F.2d 618, 195 USPQ 6 (CCPA 1977) (The claimed wastewater treatment device had a tank volume to contractor area of 0.12 gal./sq. ft. The prior art did not recognize that treatment capacity is a function of the tank volume to contractor ratio, and therefore the parameter optimized was not recognized in the art to be a result-effective variable.). See also In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980) (prior art suggested proportional balancing to achieve desired results in the formation of an alloy).

Response to Arguments

Applicant's arguments filed 2/9/2011 have been fully considered but they are not persuasive. It is argued that the support for the amendment to claim 5 is at the table bridging pages 5-6. Although the 850 firing temperature is disclosed elsewhere, the table makes no mention of any firing temperature/range. Rather the table refers to

'maturing temperature'. Examiner could find no mention in the table which corresponds to a value of 790 C (firing, maturing or otherwise). Likewise Examiner could find no mention of "790" C anywhere in the specification.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Thursday, roughly 9-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Daniels can be reached on 571-272-2450. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

John Hoffmann

Primary Examiner
Art Unit 1741

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